Claims.

Claim 1 (currently amended):

1. An apparatus for addressing any location in continuous physical range containing a waveguide, wherein the waveguide allows unidimensional or two- or three- dimensional propagation of a distortions, and the distortion type is not restricted and may be set to electrical, mechanical, optical, magnetic or other, the apparatus also contains a set of generator of such distortions, and each generator sends this distortions into the waveguide, and wherein said waveguide contains domains that render nonlinear response with respect to amplitude of the distortion in direct geometrical proximity, wherein said locations reside within said domains. ~~method of addressing a continuous range of locations in physical media that employs interference of at least two waves propagating in continuous media, wherein two wave fronts meet at a location inside the media and said location uniquely identifies a location within said continuous range.~~

Claim 2 (currently amended):

2. An apparatus of claim 1 ~~method of addressing a continuous range of locations in physical media that employs interference of at least two waves propagating in continuous media~~, wherein at least two of said distortions ~~waves~~ propagate in the same direction with different phase velocities. ~~and two wave fronts meet at a location inside the media and said location uniquely identifies a location within said continuous range.~~

Claim 3 (currently amended):

3. An apparatus of claim 1 ~~method of addressing a continuous range of locations in physical media that employs interference of~~, wherein at least two of said distortions are ~~waves~~ propagating in said waveguide ~~continuous media~~ by distinct passes, ~~wherein~~ and fronts of the distortions ~~two waves~~ interfere in a media that reveal nonlinear properties and a location of said interference uniquely identifies a location within said continuous range.

Claim 4 (currently amended):

4. An apparatus of claim 3 ~~method of addressing a continuous range of locations in physical media that employs interference of at least two waves propagating in continuous media by distinct passes, wherein fronts of two waves interfere in a media that reveal nonlinear properties and location of said interference uniquely identifies a location within said continuous range~~, ~~and~~ wherein there are at least two of said distortions ~~waves~~ propagating in the same direction with different velocities.

Claim 5 (currently amended):

5. An apparatus of claim 1 ~~method of addressing a continuous range of locations in physical media that employs interference of at least two waves propagating in continuous media, wherein two wave fronts meet at a location inside the media and said location uniquely identifies a location within said continuous range~~,

wherein at least two of said distortions ~~waves~~ have ~~shape of pulses with~~ defined finite length.

Claim 6 (currently amended):

6. An apparatus ~~method~~ of claim 2, wherein at least two of said distortions ~~waves~~ have ~~shape of pulses with~~ defined finite length.

Claim 7 (currently amended):

7. An apparatus of claim 3 ~~method of addressing a continuous range of locations in physical media that employs interference of at least two waves propagating in continuous media by distinct passes, wherein fronts of two waves interfere in a media that reveal nonlinear properties and location of said interference uniquely identifies a location within said continuous range~~, wherein at least two of said distortions ~~waves~~ have ~~shape of pulses with~~ defined finite length.

Claim 8 (currently amended):

8. An apparatus ~~method~~ of claim 4, wherein at least two of said distortions ~~waves~~ have ~~shape of pulses with~~ defined finite length.

Claim 9 (currently amended):

9. An apparatus ~~method~~ of claim 5 ~~addressing a continuous range of locations in physical media that employs interference of at least two waves propagating in continuous media, wherein two wave fronts meet at a location inside the media~~

~~and said location uniquely identifies a location within said continuous range~~, wherein at least one distortion ~~waves~~ have a shape of Gaussian ~~pulse with defined width~~.

Claim 10 (currently amended):

10. An apparatus ~~method~~ of claim ~~2~~ 6, wherein at least one distortion ~~waves~~ have a shape of Gaussian ~~pulse with defined width~~.

Claim 11 (currently amended):

11. An apparatus ~~method~~ of claim 7 ~~of addressing a continuous range of locations in physical media that employs interference of at least two waves propagating in continuous media by distinct passes, wherein fronts of two waves interfere in a media that reveal nonlinear properties and location of said interference uniquely identifies a location within said continuous range~~, wherein at least one distortion ~~waves~~ have a shape of Gaussian ~~pulse with defined width~~.

Claim 12 (currently amended):

12. An apparatus ~~method~~ of claim [[4]] 8, wherein at least one distortion ~~waves~~ have a shape of Gaussian ~~pulse with defined width~~.

Claim 13 (currently amended):

13. An apparatus ~~method~~ of claim 1 ~~of addressing a continuous range of locations in physical media that employs interference of at least two waves~~

~~propagating in continuous media, wherein two wave fronts meet at a location inside the media and said location uniquely identifies a location within said continuous range~~, wherein properties of said propagation media nonlinear with respect to amplitude of at least one of said distortions ~~waves~~.

Claim 14 (currently amended)

14. An apparatus ~~method of~~ claim 2, wherein properties of said propagation media nonlinear with respect to amplitude of at least one of said distortions ~~waves~~.

Claim 15 (currently amended):

15. An apparatus of claim 1 ~~artificially produced structure capable of~~ , wherein said waveguide propagat[[ing]]es particular types of distortions ~~waves~~ with low attenuation and utiliz[[ing]]es interference of their waves to dynamically alter [[a]] at least one physical property of confined volume of compositing material.

Claim 16 (currently amended):

16. An apparatus ~~artificially produced structure~~ of claim 15, wherein envelope of said apparatus ~~structure~~ has at least one of its base dimensions (height, width, length) 100 times larger than other two dimensions.

Claim 17 (currently amended):

17. An apparatus ~~artificially produced structure~~ of claim 16 that can be bent to

form a loop with minimal diameter less than 5 mm.

Claim 18 (currently amended):

18. An ~~artificially produced structure capable of propagating particular types of waves with low attenuation and having shape resembling fiber~~ apparatus comprising a unidimensional waveguide, wherein said waveguide is ~~and~~ laid out to cover two-dimensional surface using ordered pattern, and said apparatus further comprises a set of sources of distortions, and said waveguide has plurality of domains with nonlinear properties with respect to energy level in direct geometrical proximity.

Claim 19 (currently amended):

19. An apparatus ~~structure~~ of claim 18 where[[ ]]in said pattern resembles woven or knotted fabric.

Claim 20 (currently amended):

20. An apparatus ~~structure~~ of claim 18 where[[ ]]in said pattern is parallel lines.

Claim 21 (currently amended):

21. An apparatus ~~structure~~ of claim 19 where[[ ]]in said pattern is rows and columns, wherein angle between the rows and the columns may be other then $\pi/2$.

Claim 22 (currently amended):

22. An apparatus ~~artificially produced structure~~ of claim 15, wherein envelope of said apparatus ~~structure~~ has at least one of its base dimensions (height, width, length) 100 times smaller other dimensions.

Claim 23 (currently amended):

23. An apparatus ~~artificially produced structure~~ of claim 1 ~~capable of propagating particular types of waves with low attenuation and utilizing interference of waves,~~ wherein said waveguide is additionally coupled with plurality of transducers to query a value of predefined physical property of dynamically selected confined volume of compositing structure.

Claim 24 (currently amended):

24. An apparatus ~~structure~~ of claim 15 that contains materials with electro-optical properties and said properties are dynamically ~~changed~~ controlled.

[Claim 25] (Canceled)

Claim 26 (currently amended):

26. An apparatus of claim 1 ~~continuously addressable material utilizing the method of this invention~~, where[[ ]]in plurality of said domains ~~functional layer, as defined in this invention,~~ contains at least one ordered array[[s]] of discrete microstructures.

[Claim 27] (Canceled)